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APPROVED	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS
BY	

AGGCTGTCCCACCCACCATCTGCACCGCTGCAGCGCCCGGCCCTGTCCCGGCCGTAGTCGTCTTGTAGCCC
GCCCTGCCGCTCCCAGGGACCCGATCCTACCTGGTGCAGGGCAGAGCAGGAGCTGGCCCTGGCTGGAGTCAGAGCCCAGGGCGCAGCCTCGAGGAG
CCTGACTATTACAGCCAGGAGCTGGCGCGGGCGCTATTATGGGCATCGGAGCCTGAGCCGGAGCCGGAGCT
CTTCTCGCCTCAATGCATGAAGACCTAGGGTGAGGAGCAGGAACAGCAGGAGCCGACCAGCAGGCCACAGAA
CTCCAAGAAGGCCATCAAGCCAAGAAGGCTCCAAGAGGGAGAAGTTAGTTGCAGAGACGCCTCCACCAGGTAAA
AATAGCAACAGAAAAGGAGAAGAAGCAAGAATCTTGAGAAAGCTGCCAGTGATGACCATGGTGTCCCTGTGGCTCA
TGAGGATGTCAGAGAGAGTTGCCACCTTGGTCTGAAACATTAAAATCACAGACTTCAGCTGCATGCCCTCA
CATCGAACGGCTTATGCCCTGGGAGCCACCGGGGAGACTCAACATCCAGGAGGATTAAATGAAATGACTTTAC
GATGGGGCTTGGTGTGGTAGGAACGACTTGACATCGAGTGGATGACCTGGCGCTGACCAAGTTCAC
AGGGTCATTACCCAAAGGAAGGAACTCTCTGGCTGAGTGACTGGGTGACATCCTATAAAGTCATGGTGAGCAATG
ACAGCCACACATGGGTTACTGTGAAGAATGGATCTGGGAGCTGATATTGAAGGAAACAGTGAGAAGGAGATTCC
GTGCTCAATGAGCTGCCAGTCCCCATGGTGGCCGCTACATCGATAAACCTCAGTCTGGTTGATAACGGGAG
CATCTGCATGAGGATGGAGATCTGGCTGCCACTGCCGATCTTAATAACTATTACACCGACGTAATGAGATGA
CCACCCACGGATGACCTGGATTAAAGCACCACAACATAAGGAAATGCCAGTTGATGAAGGTTGTCATGAAATG
TGCCCAATATTACCAAGGATTACAACATTGCCAAAAGCCACCAGGGCTGAAATTGTATGCCGTAGAGATCTCTGA
CCATCCTGGGAAACATGAAGTGGTGGAGCCGAGTCCACTACATCGCAGGGGCCACGGCAATGAGGTTCTGGGAC
GAGAACTGCTGCTGCTGACTGCCAGGAATACTCGGCGCAGAACGCACGCATCGTCCGCTTGGT
GAGGAGACTGAATCCACATTCTACCCCTCAATCCTGATGGCTATGAGAAGGCTATGAAGGAGGTTCCGAGTT
GGGAGGCTGGTCCCTGGGACGTTGGACCCATGATGGCATCGATATCAACAAACAACTTCCGATTAAACTCGCTGC
TCTGGGAGGCAGAGGACCAGCAGAATGCCCAAGGAAGGCTCCAAACCACATGCCATCCCTGAGTGGTTCTG
TCAGAATGCCACAGTGGCACAGAGACCAAGAGCCGTATGCCCTGGATGGAGAAGATCCCCTGAGTGGTTCTG
CAACCTACAGGGGGGTGAGCTGGCTGGCATACCCCTATGACATGGTGGCCCTGTGGAGACAGGAGCACA
CCCCAACACCTGATGATCATGTGTCGCTGGCTGGCTGGCGTATTCCCTACGCCTCCACTCACCCTCATGACAGATGCC
AGGAGGCGAGTGTGCCACACGAAGATTTCAGAAGGAGGGCACCGTCAATGGGCTTCCGGACACAGTGG
TGAAGTCTAAACGATTTCAGCTACCTCATACAAACTGCTTGAGCTGCCATCTACGTGGCTGTGATAAAATACC
CACACGAGAGCAGCTGCCGGAGGAATGGGAGATAACCGGGAGTCTCTGATTGTGTTATGGAGCAGGTTCATCGA
GGCATCAAAGGCATAGTGAGAGATTACAAGGGAAAGGGATTCAATGCTGTCATCTGTGGAGGTTAAACCA
TGACATCCGGACAGCCAGCGATGGGATTACTGGCTACTGAAACCTGGCAATATGTGGTCACAGCCAAGGCG
AAGGCTTATCACTCCACCAAGAAACTGCATGGTGGCTATGATATGGGAGCTACTCGGTGTGACTTCACCCCTCACA
AAGACCAACCTGGCTAGGATAAGAGAAATTATGGAGACATTGGGAAGCAGCCTGTCAGCCTACCCCTCAGGCGCCT
GAAGCTGGGGAGGAAAAGGCGCAGCGTGGGTGACCTGCGACACTTGAGACATACCCAGACCGTGCAAAT
AAAAATCCACTCCAGTAGTAAAAAA

(SEQ ID NO:1)

MARLGTACPALALALVALVALAGVRAQGAAFEEDYYSQELWRRGRYYGHPEPEPEPELFSPSMHEDLR
VEEQEQQEPHQQGHRTPKAIKPKKAPKREKLVAETPPPGKNSNRKGRSKNLEKAASDDHGPVAHEDV
RESCPPLGLETLKITDFQLHASTSKRYGLGAHRGRRLNIQAGINENDFYDGAWCAGRNDLHQWIEVDARRL
TKFTGVITQGRNWLSDWVTSYKVMVSNDSDHTWTVKNGSGDMIFEGNSEKEIPVNLNPVPMVARYIR
INPQSFDNGSICMRMEILGCPDPNNYYHRRNEMTTDDDFKHINYKEMRQLMKVVNEMCPNITRIY
NIGKSHQGLKLYAVEISDHGEHEVGEPEFHIIAGAHNEVLGRELLLLLHFLCQEYSAQNARIYRLVE
ETRIHILPSLNPDGYEKAYEGSELGGWSLGRWTHDGIDINNNFPDLNSLLWEAEDQQNAPRKVPHYIA
IPEWFLSENAVTATETRAVIAWMEKIPFVLGGNLQGGEVVAYPYDMVRSLWKTQEHTPTPDDHVFRWLA
YSYASTHRLMTDARRVCHTEDFKEEGTVNGASWHTVAGSLNDFSYLHTNCFELSIYVGCDKYPHESEL
PEEWENNRESLIVFMEQVHKGKIGIVRDLQKGKISNAVISVEGVNHDIRTASDGDYWRLNPGEYVVTAK
AEGFITSTKNCMVGYDMGATRCDFLTKTNLARIREIMETFGKQPVSLPSRRLKLRGRKRRQRG (SEQ
ID NO:2)

FIGURE 1

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REF ID:	O.G. FIG.
CLASS:	SUBCLASS
BY DRAFTSMAN	

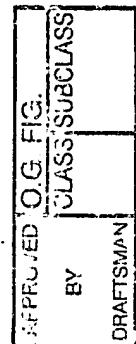
underlined = deleted in targeting construct

[] = sequence flanking Neo insert in targeting construct

[AGGCTGTCCCACCCACCATCTGCACCCGCTGCAGCGCCCGGCCCTGTCCCAGGCCGT
 AGTCGTCATTGTAGCCCGCCTGCCGCTCCGGGGACCCGATCCTACCCTGGGTGCGGGG
 CAGAGCGGGCATGGCCCGTCTGGGGACCGCCTGCCCTGCGCTGGCGTGGCCCTGGCACT
 TGTGGCGGTGGCCCTGGCTGGAGTCAGAGCCAGGGCGCAGCCTCGAGGAGCCTGACTA
 TTACAGCCAGGAGCTCTGGCGCGGGCGTATTATGGCATCCGGAGCCTGAGCCGA
 GCCGGAGCTCTCGCCTCAATGCATGAAGACCTAGGGTGGAGGAGCAGGAACAGC
 AGGAGCCCCACAGCAGGGCCACAGAAACTCCCAAGAAGGCCATCAAGCCCAAGAAGGCTC
CCAA[GAGGGAGAAGTTAGTTCAGAGACGCCTCCACAG]GTAAAAATAGCAACAGAAA
 AGGCAGAAGAAGCAAGAAAACTTGAGAAAGCTGCCAGTGATGACCATGGTGCCCCTGTGGC
 TCATGAGGATGTGCAGAGAGGTGGCCACCTCTGGCTGGAAACATTAAAATCACAGA
 CTTCCAGCTGCATGCCTCACATGAGCGTTATGGCCTGGGAGCCCACGGGGGAGACT
 CAACATCCAGGCAGGCATTAATGAAATGACTTTACGATGGGCTTGGTGCTGGTAG
 GAACGACTTGCATCAGTGGATCGAAGTGGATGCCGGCGCCTGACCAAGTTCACAGGGT
 CATTACCAAGGAAGGAAACTCTCTGGCTGAGTGACTGGGTGACATCCTATAAAGTCAT
 GGTGAGCAATGACAGCCACACATGGGTTACTGTGAGAATGGATCTGGGACATGATATT
 TGAAGGAAACAGTGAGAAGGGAGATTCTGTGCTCAATGAGCTGCCAGTCCCCATGGTGC
 CCGCTACATTCGATAAACCCTCAGTCGGTTGATAACGGGAGCATTCGCATGAGGAT
 GGAGATCTGGGCTGCCACTGCCGGATCTTAATAACTATTTACACCGACGTAATGAGAT
 GACCACACGGATGACCTGGATTTAAGCACCACAACTTAAAGGAAATGCCAGTTGAT
 GAAGGTTGCAATGAAATGTGCCCAATATTACAGGGATTACACATTGGAAAGCCA
 CCAGGGCTGAAATGTATGCCGTAGAGATCTCTGACCATCCTGGGAACATGAGTTGG
 TGAGCCCGAGTCCCACTACATCGCAGGGGCCACGGCAATGAGGTTCTGGGACGAGAA
 GCTGCTGGCTGCTGCATTCCCTGTGCCAGGAATACTCGGCGCAACGCCACGCGATCG
 CCGCTGGTGGAGGAGCTGCAATCCACATTCTACCCCTCCCAATCCTGATGGCTATG
 GAAGGCCTATGAAGGAGGTTCCGTAGTTGGAGGCTGGTCCCTGGACGTTGGACCCATG
 TGGCATCGATATCAAAACAACACTTTCCGATTTAAACTCGCTGCTCTGGGAGGCAGAGGA
 CCAGCGAATGCCCAAGGAAGGGTCCCCAACACTACATGGCCATCCCTGAGTTGGTTCT
 GTCTGGAATGCCCAAGTGGCCACAGAGACCCAGAGCCCGCTATCCCTGGATGGGAGAAGAT
 CCCGGTTGCTGGGAGGCAACCTACAGGGGGTGAGGCTGGCTGGCAATCCCATG
 CATGGTGCGGGCTGGGAGGCACTGGGAGGACACACCCACACCTGATGATGATGTGT
 CCGCTGGCTGGCGTATTCACGCCTCCACTACCCGGCTATGACAGATGCCAGGGAGGCG
 AGGTGTGCCACACGGAAAGATTTCCAAGGAGGAGGGGACCGCTCAATGGGCTCCGGCAAC
 CACAGTGGCTGGAAGTCTAAACGATTCAGCTACCCCAACAAATGCTTTGAGGTG
 CATCTACGTGGGCTGTGAAAATACCCACACGAGAGCCGAGCTGCCGGAGGAATGGGAGA
 TAACCGGGAGGTCTGATGTGTTCAGTGGAGCGAGGTCTACGAGGCATAAGGGCATAGT
 GAGAGATTACAGGGAAAGGGGATTCAATGCTGCTATCTGTGGAGGTGTAACCA
 TGACATCCGGACAGCCAGCGATGGGGATTACTGGCGTCTACTGAACCCTGGCGAAATATG
 GGTCACAGCCAAAGGCCAGGCTTATCATTCCACCAAGAACTTCATGGTGGCTATG
 TATGGGAGCTACGGTGTGACTTCACCCCTCAAAGACCAACCTGGCTAGGATAAGAGA
 AATTATGGGAGACATTGGGAAAGCGACGCCCTGTCAGCGTACCCCTCCAGGCGCCTGTGAAGCTGCG
 GGGACGGAAAGGCGCGCGTGGGTGACCTGTCGGACTTTGAGACATACCCAGACC
 GTGCAAATAAAAATCCACTCCAGTAGTAAAAAAAA (SEQ ID NO:1)

FIGURE 2A

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**Gene Sequence Structure**

*

327 bp

Sequence Deleted

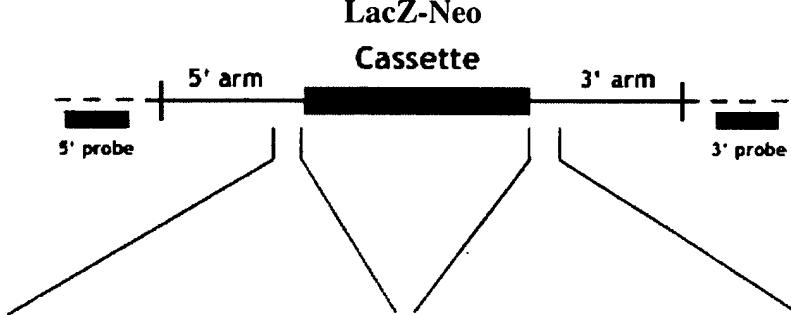
422 bp

Size of full-length cDNA: 2490 bp

**Targeting Vector*
(genomic sequence)**

Construct Number: 2825

Arm Length:
5': 4 kb
3': 1.5 kb



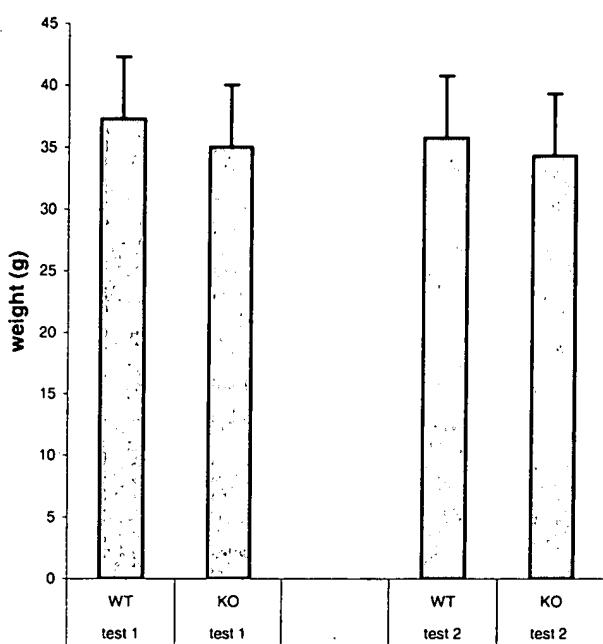
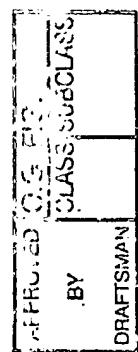
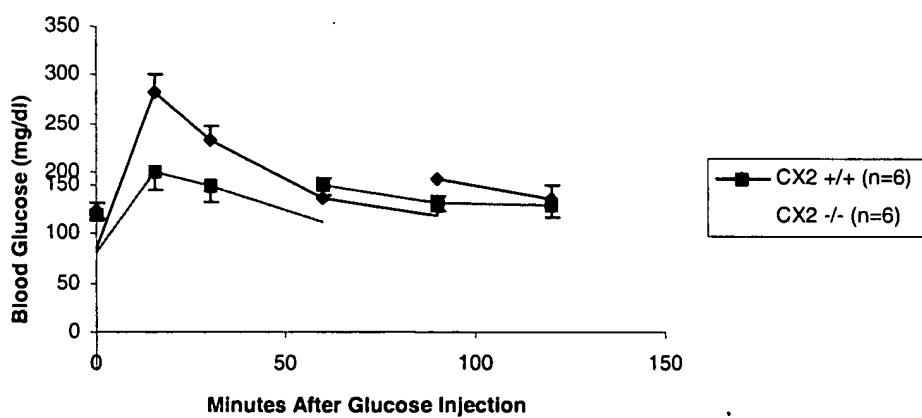
— Targeting Vector
- - - - Endogenous Locus

* Not drawn to scale

<pre> 5' >GGCATGGCCCCTCTGGGGACC GCCTGCCCTGCCTGGCGCTGGCC CTGGCACTTGTGGCGGTGGCCCTG GCTGGAGTCAGAGCCCAGGGCGCA GCCTTCGAGGAGCCTGACTATTAC AGCCAGGAGCTCTGGCGGCCGCGG CGCTATTATGGGCATCCGGAGCCT GAGCCGGAGCCGGAGCTTCTCG CCTTCATGCA<3' (SEQ ID NO:3) </pre>	<pre> 5' >GAGGGAGAAGTTAGTTGCAGA GACGCCTCCACCAGGTAACCTTTG CATCGGGCAGCCCGAGGGGGCGCC AGCGATCGTGGCACTCCAGGGGAC ACCTGGCTTCCAGTATGTTTCTT GAGTGAGCCCAGCCAAGTCCTGT GGTGCCTGTGTTATCCCTAGAGA CTACATCTGAGCTAAGTTCAGCTT TCTCTCCCTGC<3' (SEQ ID NO:4) </pre>
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FIGURE 2B

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**FIGURE 3****FIGURE 4**